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Legacy Microwave is not suited for Universal Broadband

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Wireless Backhaul and Access

Dramatically Increase the Effective Use of Spectrum

- ✓ Dramatically Lower the Cost of Backhaul and Access
- ✓ Conserve Large Amounts of Spectrum - A Finite National Resource
- ✓ Make it Economical to Provision Broadband Services to Un-served and Underserved Communities from Middle Mile BTOP networks
- ✓ Promote Investment in Innovation
- ✓ Improve the Quality and Lower Healthcare Costs Through the Use of Telemedicine by Lowering the Cost of Broadband to remote facilities
- ✓ Create Wireless Industry Jobs in Research, Development, Manufacturing, Construction and Installation

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Spectrum is a Finite and Precious National Resource

“Hundreds of promising technologies are dependent on one resource – spectrum. Because there is a finite amount of spectrum and a growing demand for it, effectively managing the available spectrum is a strategic issue for the FCC and the NTIA”

- Source: FCC Web Site

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All Point-To-Point Antennas Radiate Power in All Directions

**Equivalent Isotropically
Radiated Power (EIRP)**

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Wasted Spectrum

- ❖ Because Fixed Service licenses are authorized on an exclusive use basis, around every licensed station there are locations where a new applicant could not locate a new station because it would either cause or receive harmful interference.
- ❖ Although these locations could have been used by existing licensees, they have not. The Coordinated Spectrum has been Wasted.

Legacy Microwave Path



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Legacy Microwave Path



Used Coordinated
Radiated Power

Unused (Wasted)
Concurrently Coordinated
Radiated Power

Legacy Microwave Station



Used Coordinated
Radiated Power

Unused (Wasted)
Concurrently Coordinated
Radiated Power

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Wouldn't It Be Wonderful If the Radiated Power in ALL Directions Could Be Put to Productive Use?



Used Coordinated
Radiated Power

Unused (Wasted)
Concurrently Coordinated
Radiated Power

Upgraded Microwave Station with DREs

Used Coordinated
Radiated Power with DREs



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Report and Order, WT Docket No. 07-54

No Harmful Interference Regardless of Frequency and RPE

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Proposed/Suggested New Definitions

Summary

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Summary cont.

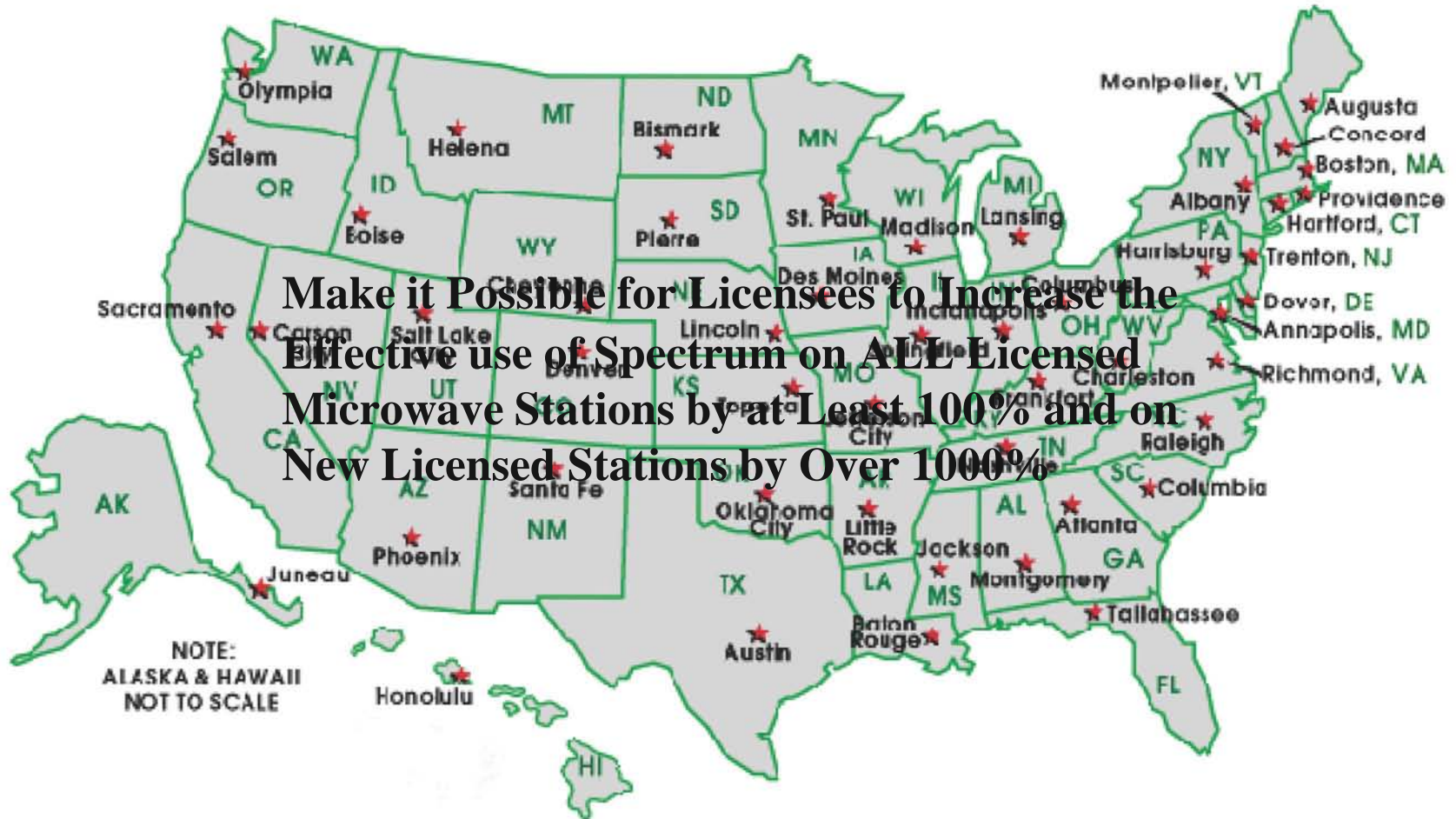
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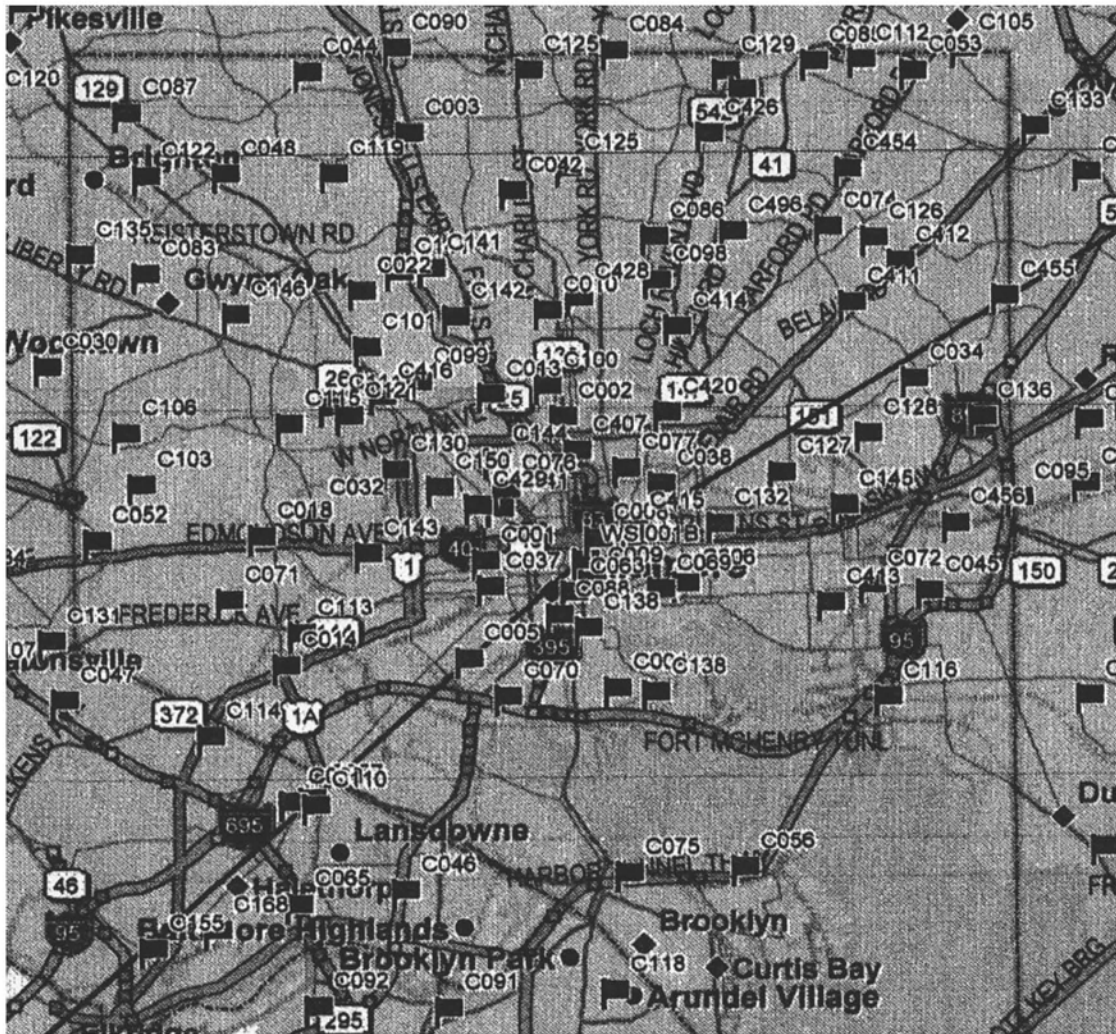
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Minor Changes to the Rules



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Typical 4G Deployment



A typical 4G deployment has 100 base stations within an area of a six mile radius. By using the side-lobe radiation around a Fixed Services licensed station the 100 base stations can be backhauled with just one frequency, conserving approx. 5800MHz of Spectrum compared to Legacy Paths and at a Cost 80% Less than a Legacy deployment.

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